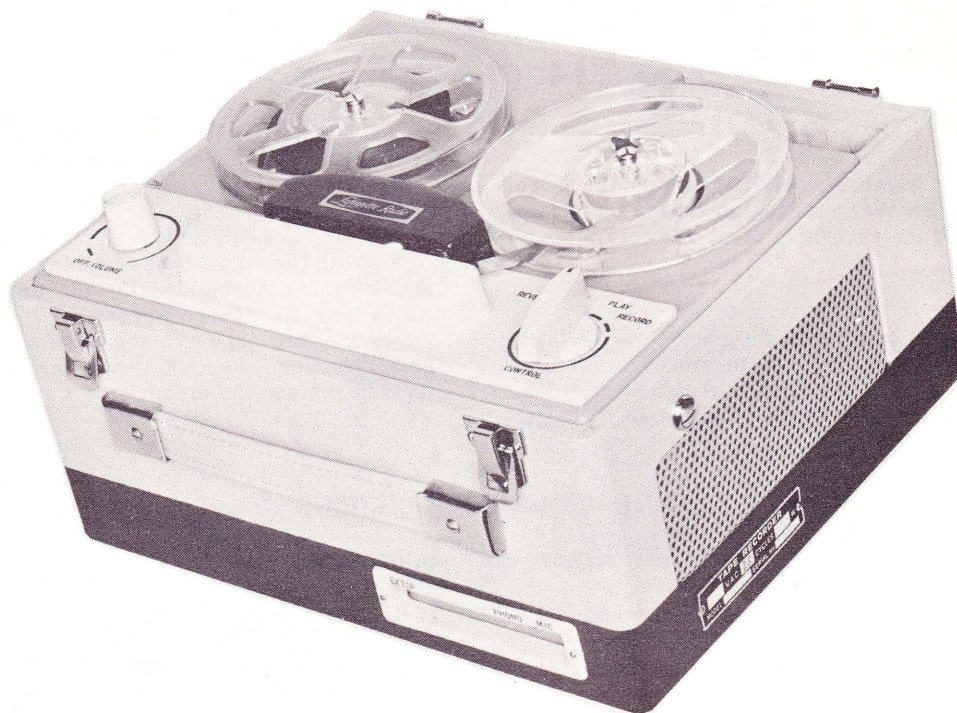


LAFAYETTE
MODEL TR-101



LAFAYETTE
MODEL TR-101

GENERAL INFORMATION

The Lafayette Model TR-101 tape recorder is a two-speed tape recorder designed to play and record two tracks of material on standard-width recording tape.

Recordings may be made from a phonograph, radio, or television receiver as well as those made from the microphone.

The two tape speeds are $7\frac{1}{2}$ and $3\frac{3}{4}$ ips. Using both tracks, the recording and playing times are as follows:

Reel Size	$3\frac{3}{4}$ " Speed	$7\frac{1}{2}$ " Speed
5" (600 ft.)	1 hour	$\frac{1}{2}$ hour

This recorder is designed to operate on 60 cycles, 110—120 volts, AC supply only.

Supplied By:

Lafayette Radio
165-08 Liberty Avenue
Jamaica 33, New York

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana



The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of CQ449

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PREPARING FOR OPERATION

1. Remove lid from carrying case.
2. Remove the AC cord and accessories from the storage compartment at the top rear of the case.
3. Plug the AC cord into a convenient outlet of proper power rating.

FUNCTION OF CONTROLS

On-Off Volume

Turn this control clockwise to turn the power on to the unit. Further rotation increases the volume on playback and the recording level on record.

Selector

This control selects the different modes of operation. Turning this control counterclockwise from the Stop position, places the unit in the Rewind mode. Turning the control clockwise from the Stop position

to the first position, places the unit in Play; the second position places the unit in Record.

Speed Change

With the small brass bushing (9) on the capstan and flywheel assembly (15) the tape speed will be 3 3/4 ips. To change speeds to 7 1/2 ips, remove knurled screw (8) from the capstan and remove the small bushing. Replace it with the large brass bushing and replace the thumb screw.

OPERATING INSTRUCTIONS

Threading the Tape

1. Place a reel of tape on supply reel stand (58).
2. Place an empty reel on takeup reel stand (18).
3. Unwind about 10" of tape from the reel. Hold a section taut and insert it in the tape slot. Make sure the dull coated side faces the rear of the recorder.
4. Insert the free end of the tape into one of the radial slots in the hub of the takeup reel. Turn the reel several turns counterclockwise to fasten the tape to the reel and to take up all slack between reels.

To Record from Microphone

1. Rotate the On-Off Volume control to the right to turn the recorder on. Allow sufficient time for the tubes to warm up.
2. Insert the microphone plug into the "Mic" jack.
3. Set the recorder for the desired speed.
4. Turn the Selector knob to the Record position.
5. Place the microphone about 6 to 12 inches from the signal source.
6. Adjust the Volume control until the record level indicator flashes on the highest peaks.

NOTE: Correct volume level when recording is very important. Too weak a signal will result in weak playback and high background noise. Too strong a signal will result in distortion during playback.

Recording Radio Programs

Radio programs may be recorded by one of the

following methods:

1. Microphone Pickup from Radio Speaker — Place the microphone about 6 to 12 inches in front of the radio speaker. Turn the radio volume control to a normal level. Turn the radio tone control to treble or high. Set the recording level and record as under "To Record from Microphone".
2. Direct Connection to Radio Speaker — Make a shielded cable with a two-conductor phone plug on one end and two alligator clips on the other end. Connect the alligator clips across the voice coil terminals of the radio speaker and insert the plug into the "Phono" jack. Set the radio volume and tone controls as described in Step 1. Set the recording level and proceed as described under "To Record from Microphone".
3. Direct Connection to Volume Control of Radio — Make a shielded cable with a two-conductor phone plug on one end. Connect the other end across the radio volume control. Insert the phone plug into the "Phono" jack. Set the recording level and record as described under "To Record from Microphone". The setting of the radio volume and tone controls will have no effect on this setup.

To Record from Phonograph

A phono-type plug is required on the pickup leads. Insert it into the "Phono" jack and proceed as described under "To Record from Microphone".

To Record from a Television Receiver

Use one of the methods described under "Recording Radio Programs".

Dual Track Recording

This recorder is designed to record and play on one-half the width of the tape at a time; thereby, re-

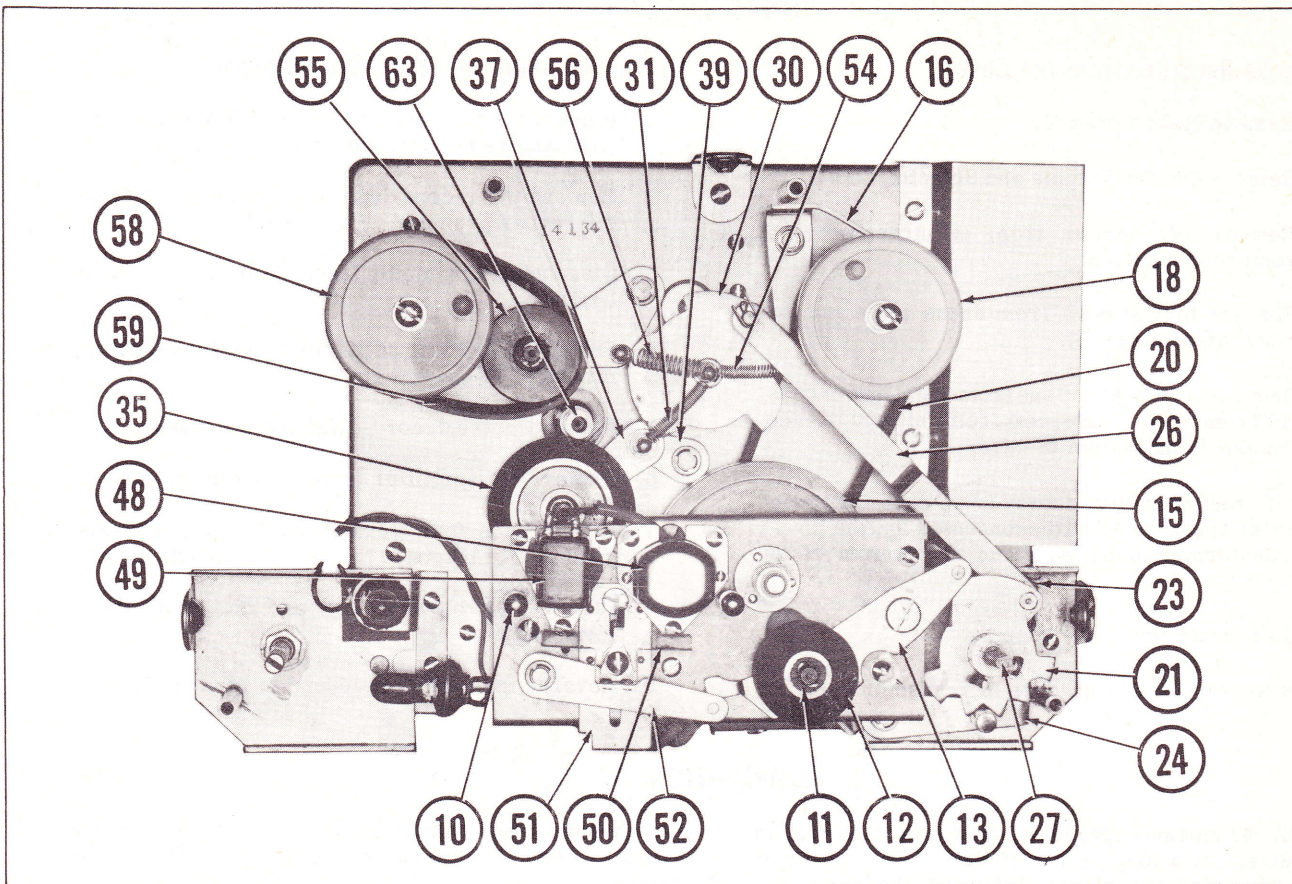


FIG.1 TOP VIEW OF MECHANISM WITH DRESS PLATE REMOVED

LAFAYETTE
MODEL TR-101

sulting in two-track recording. After the first recording is completed, remove the full reel from the takeup reel stand (18), turn the reel over and place it on the supply reel stand (58). The second track can now be recorded. The tape can be played back in the same manner.

Rewind

To rewind the tape at a rapid speed, turn the selector knob to the Rewind position.

To Play a Recording

1. Thread the tape as described under "Threading the Tape".
2. Turn Selector knob to the Play position.
3. Adjust the Volume control to the desired listening level.

To Erase a Recording

Any recording on the tape is automatically

erased before a new recording is made with the unit in Record. Should it be desired to erase a recording without recording new material, follow the normal recording procedure but set the Volume control fully counterclockwise and leave the microphone disconnected.

To Edit and Splice Tape

NOTE: It is impossible to edit and splice one track without affecting the other. Recordings to be edited should be limited to one track recordings only.

1. Tape may be edited by cutting out unwanted portions, or by joining selections into another sequence. Announcements can be inserted between selections, etc. Unused tape can be spliced for reuse.
2. For best results, cut tape at a slight diagonal, butt ends together and fasten on the glossy side with splicing tape. Trim off any excess width.

CLEANING

The tape guides, erase head, record-playback head, pressure roller, and capstan should be cleaned with alcohol to remove the tape residue from these parts.

FOLDER
7

DISASSEMBLY

To Remove Recorder from the Case

1. Remove Head Cover (1).
2. Remove On-Off Volume and Selector knobs.
3. Remove two screws from escutcheon (4) and remove escutcheon.
4. Remove four screws from dress plate and remove dress plate (5).
5. Remove five screws, one from right end of case, one from rear of case, two from left end of case, and one from bottom of case.
6. Lift recorder up and away from case far enough so the speaker can be disconnected and the power transformer unbolted from the bottom of the case.
7. Lift entire unit from case.
8. Reverse above procedure to reassemble.

To Remove Amplifier from Tape Transport

1. Remove the hex nut from the On-Off Volume control and remove the control.
2. Remove the record level and ready lights from the rubber grommet mountings.
3. Disconnect the motor leads from the terminal board.
4. Remove the terminal board from the mounting bracket.
5. Disconnect the record-playback and erase heads.
6. Remove the amplifier chassis cover.
7. Remove the four screws holding the chassis mounting brackets to the tape transport.
8. Remove the blade switch and coil from their mountings.
9. Reverse the above procedure to reassemble.

LUBRICATION

Under normal operation, no lubrication should be required for a long period of time. When the unit is disassembled for repair, lubricate the cams and

levers with a non-hardening grease. Make sure no lubricant gets on the rubber surfaces of the drive wheels.

TROUBLE CHART

Symptom	Cause	Remedy
No Record or Playback	1. Drive belt (20) broken.	1. Replace drive belt.
	2. Idler wheel tension spring (31) broken or disconnected.	2. Connect or replace spring.
	3. Tension spring (53) disconnected or broken.	3. Replace tension spring.
	4. Defective record-playback head (48).	4. Replace record-playback head.
No Rewind	1. Rewind drive belt (59) broken.	1. Replace rewind drive belt.
	2. Rewind lever tension spring (56) broken or disconnected.	2. Connect or replace spring.
No Erase	1. Defective erase head (49).	1. Replace erase head.
	2. Tension spring (53) disconnected or broken.	2. Connect or replace tension spring.
Takeup reel spindle slips.	1. Felt washer on takeup reel pulley (19) worn.	1. Replace takeup reel pulley.
	2. Oil or grease on drive belt (20), flywheel (15), and takeup reel pulley (19).	2. Clean oil or grease from these parts.

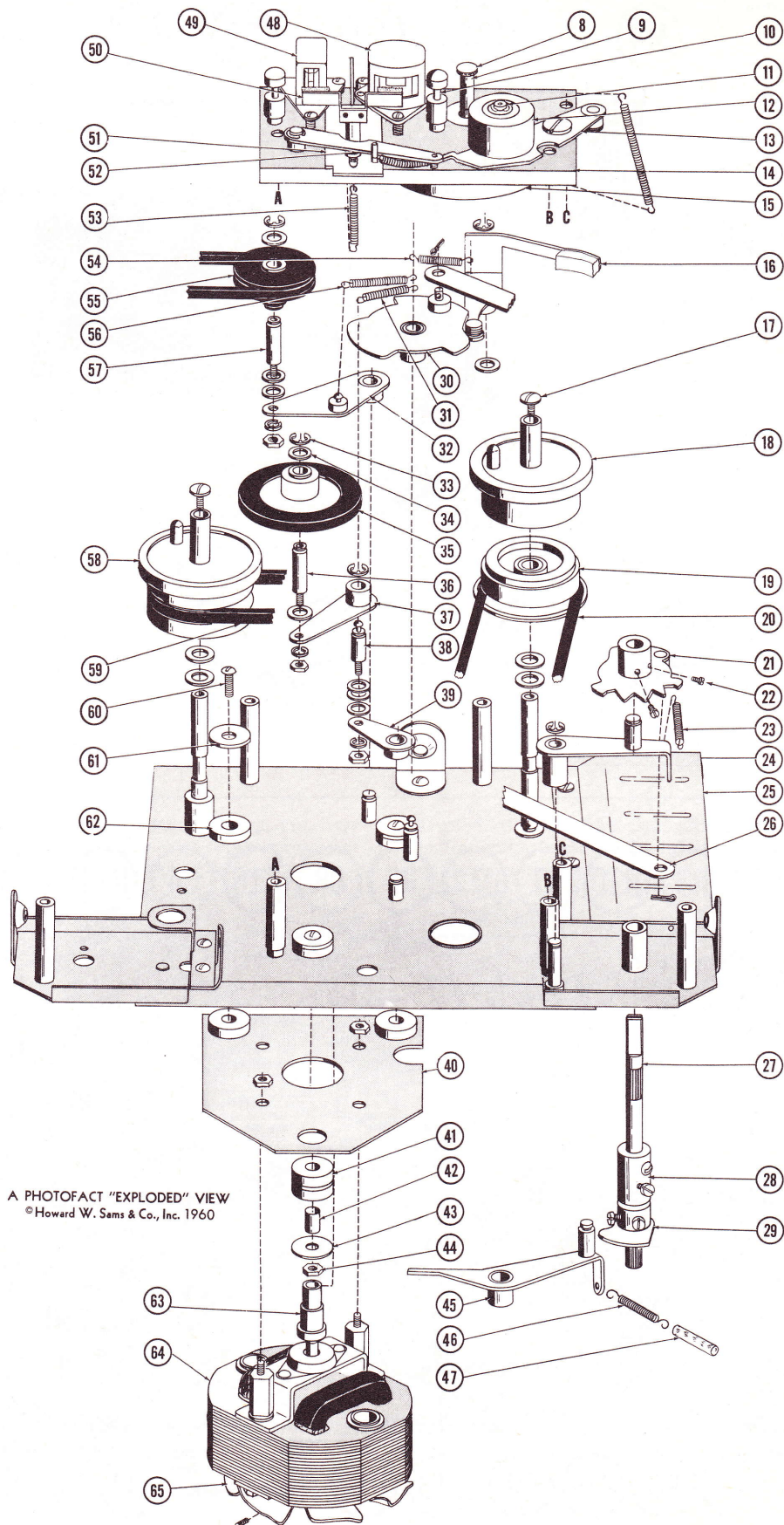
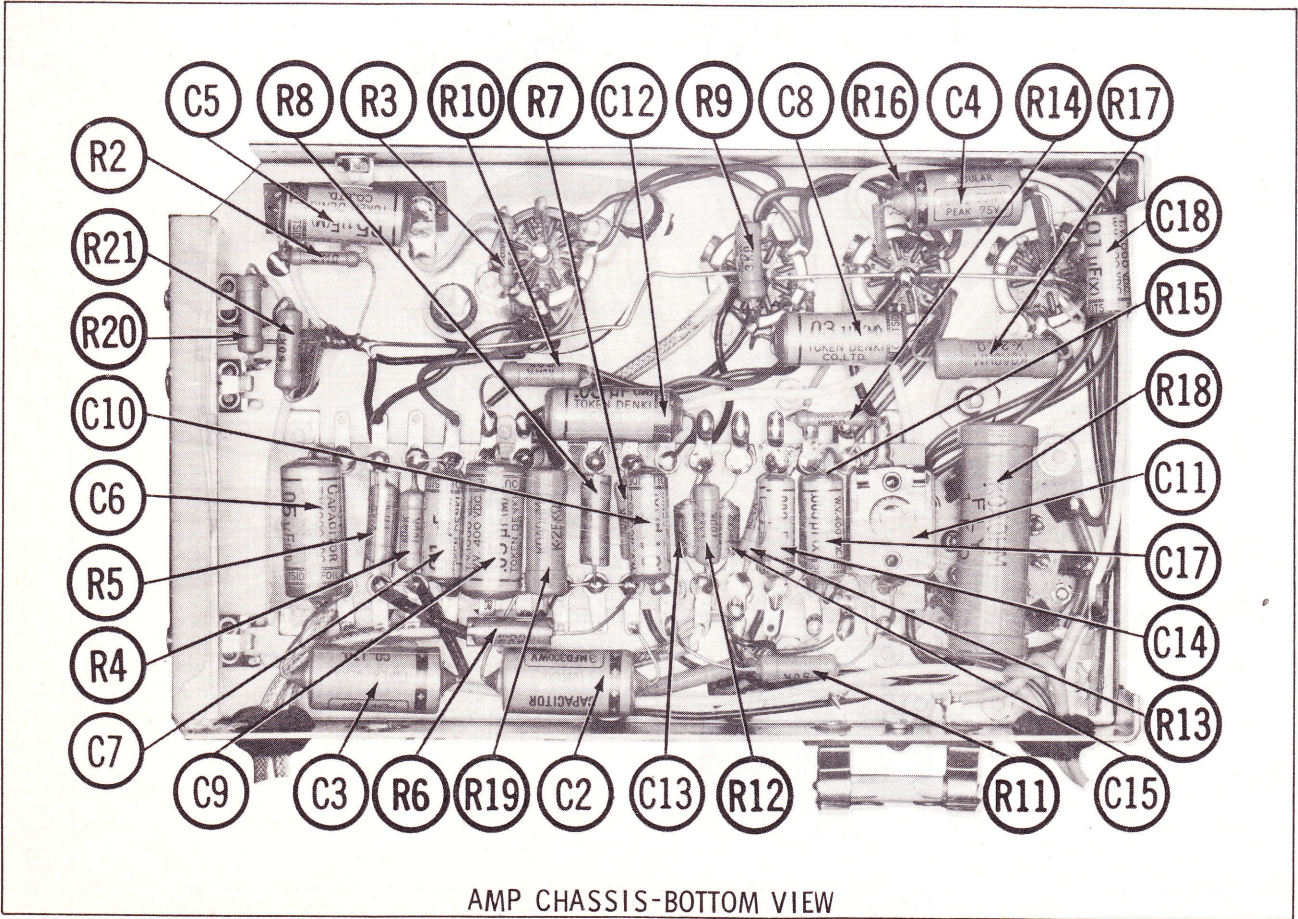
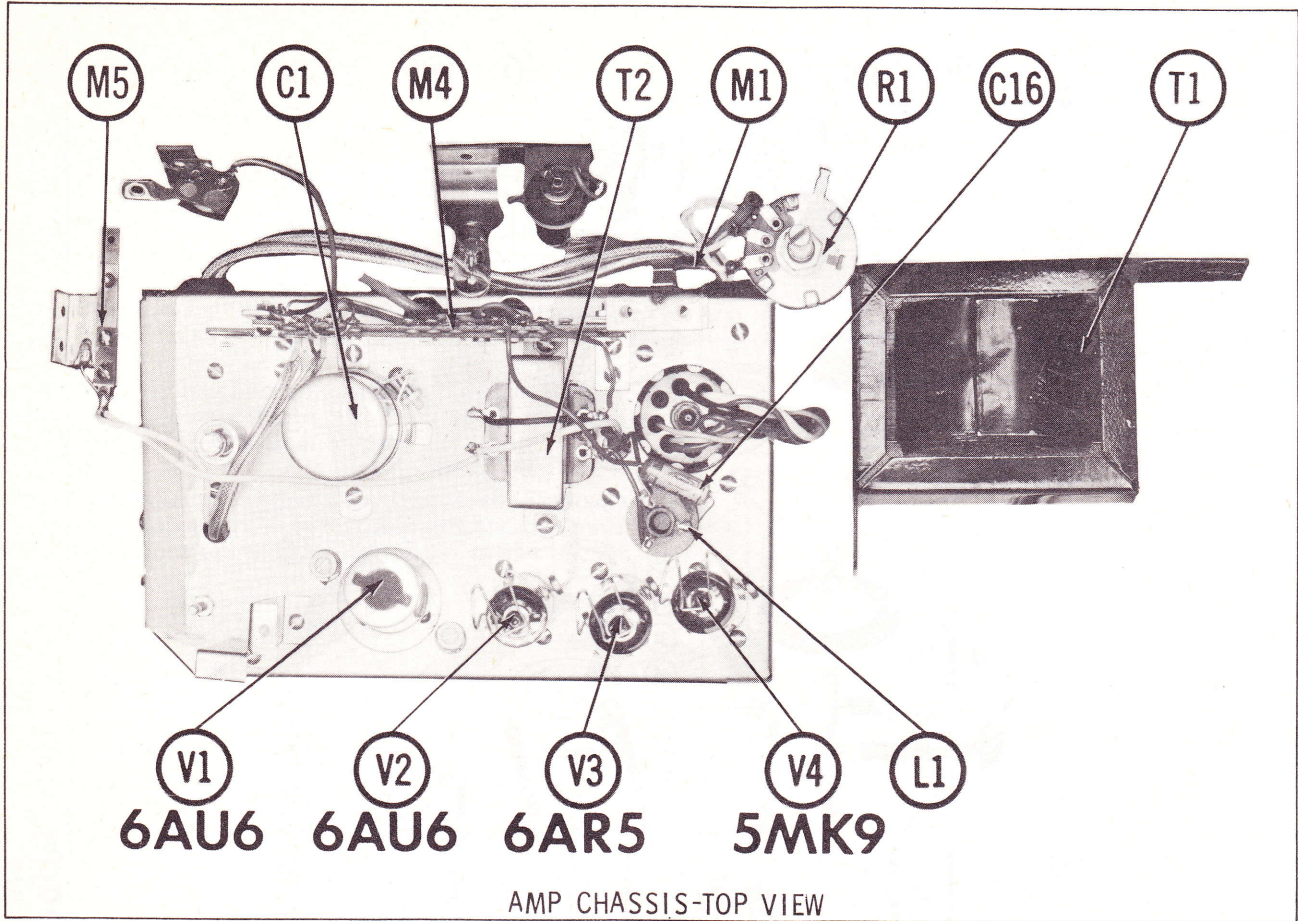
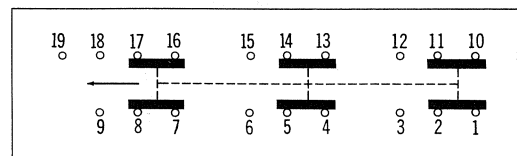
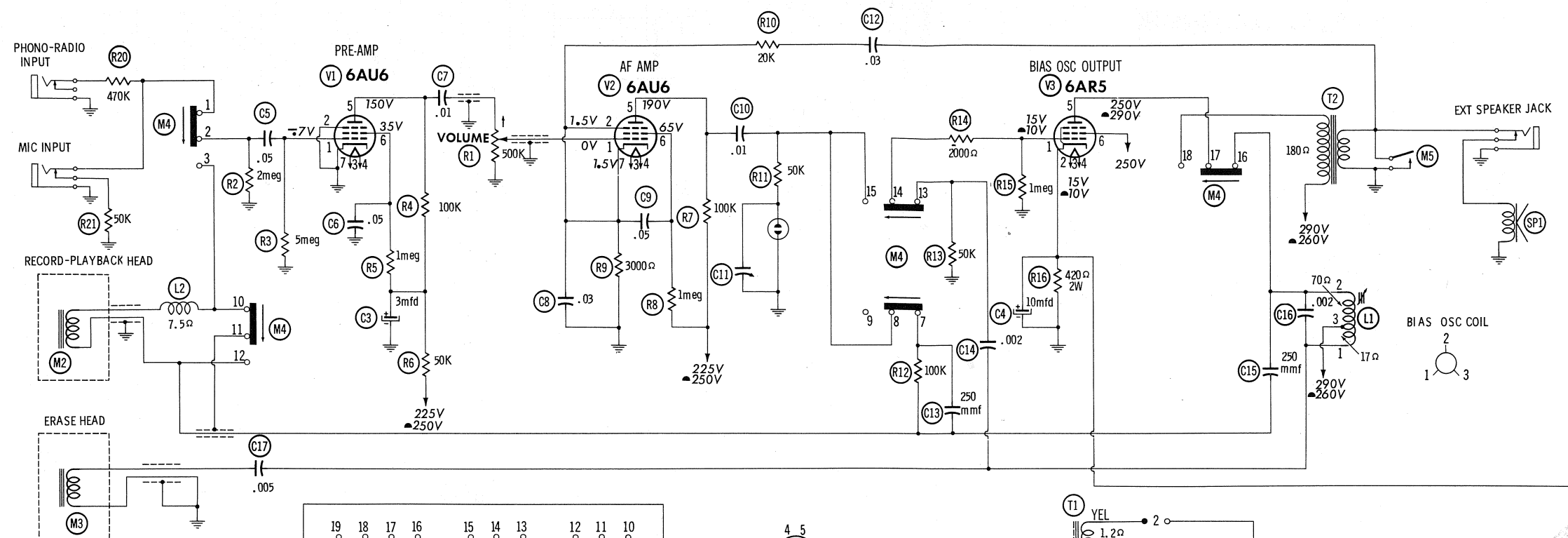


FIG.2 EXPLODED VIEW OF PARTS





RECORD-PLAYBACK SW (M4)
TERM NUMBERING

RECORD-PLAYBACK SW(M4) SHOWN
IN "RECORD" POSITION

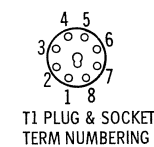
RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V1	6AU6	5meg	0Ω	420Ω	420Ω	†175K	†1.1meg	0Ω
V2	6AU6	0Ω	3000Ω	420Ω	420Ω	†125K	†1meg	3000Ω
V3	6AR5	1meg	420Ω	420Ω	420Ω	†1200Ω	†3000Ω	TP
V4	5MK9	NC	NC	‡	‡	0Ω	NC	TP

‡ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTICS IN THE CIRCUIT
ALL MEASUREMENTS TAKEN IN "PLAY" POSITION UNLESS OTHERWISE DESIGNATED.
‡ MEASURED IN "RECORD" POSITION NC NO CONNECTION
† MEASURED FROM PIN 3 OF V4 TP TIE POINT.

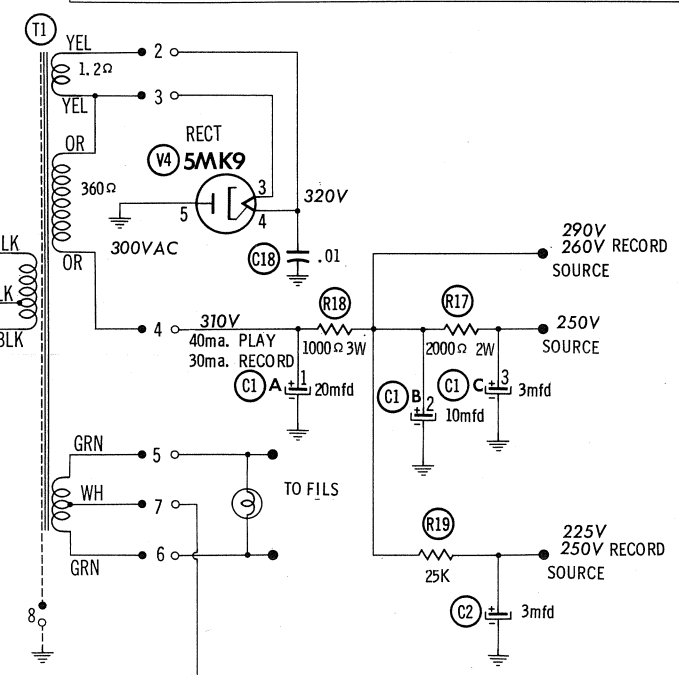
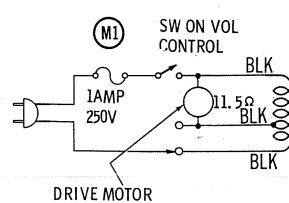
DC COIL RESISTANCE VALUES UNDER ONE OHM
NOT SHOWN ON SCHEMATIC DIAGRAM

ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION
(CONTROL VIEWED FROM SHAFT END)



T1 PLUG & SOCKET
TERM NUMBERING

117VAC
39WATTS LESS DECK-
PLAY
30WATTS LESS DECK-
RECORD



1. DC voltage measurements taken with vacuum tube voltmeter;
AC voltages measured with 1000 ohm per volt voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance of component values makes possible a
variation of ±15% in voltage and resistance readings.
6. All controls at minimum, proper output load connected.

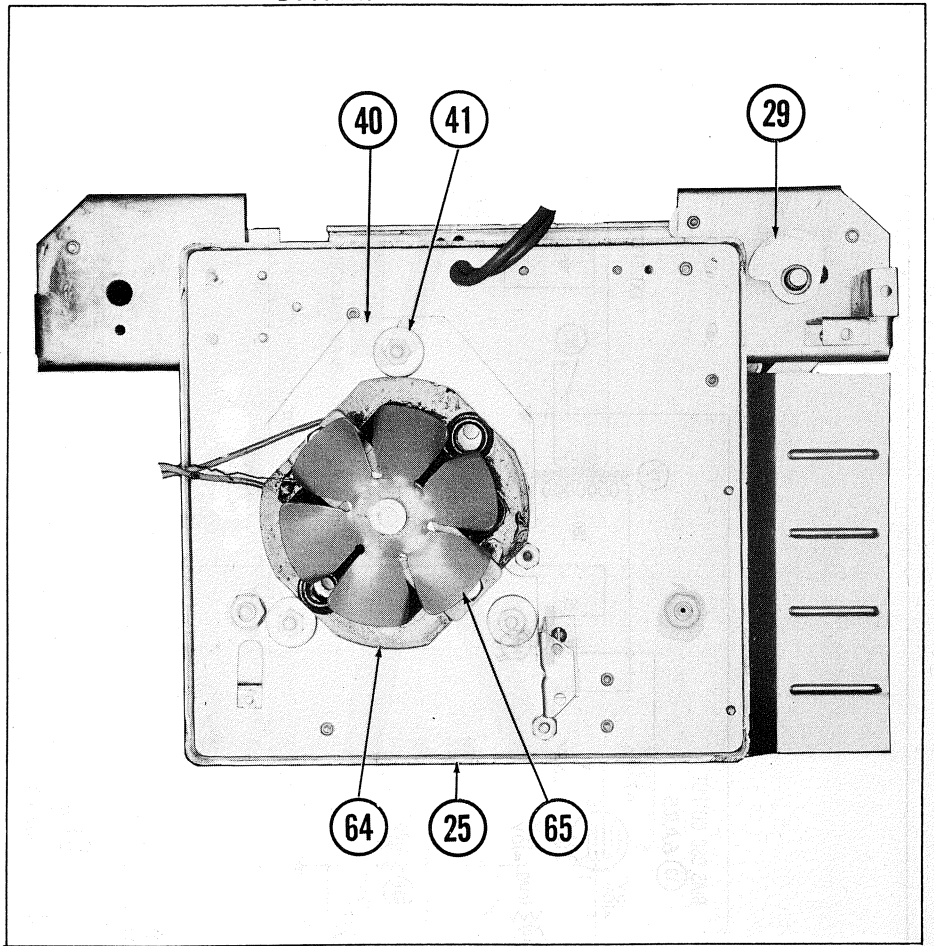
A PHOTOFAC STANDARD NOTATION SCHEMATIC
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LAFAYETTE
MODEL TR-101

MECHANICAL PARTS LIST

Ref. No.	Description	Ref. No.	Description
1	Head Cover	34	Fiber Washer
2	Function Control Knob	35	Idler Wheel
3	Screw	36	Idler Wheel Spindle
4	Escutcheon	37	Idler Wheel Lever
5	Dress Plate	38	Idler Wheel Lever Spindle
6	Screw	39	Idler Wheel Pivot Lever
7	On-Off Volume Knob	40	Motor Mounting Plate
8	Knurled Screw	41	Grommet
9	3 3/4 ips Bushing	42	Spacer
10	Tape Guide	43	Washer
11	"C" Washer	44	Hex Nut
12	Pressure Roller	45	Switch Lever
13	Pressure Roller Actuating Lever	46	Switch Lever Tension Spring
14	Head Mounting Plate	47	Spring Cover
15	Flywheel and Capstan Assembly	48	Record-Playback Head
16	Brake Lever and Pad Assembly	49	Erase Head
17	Screw	50	Pressure Pad Assembly
18	Takeup Reel Stand	51	Guide Plate
19	Takeup Reel Pulley	52	Pressure Pad Control Lever
20*	Drive Belt *	53	Tension Spring
21	Function Cam	54	Brake Lever Tension Spring
22	Set Screw	55	Rewind Pulley
23	Tension Spring	56	Rewind Lever Tension Spring
24	Function Cam Locking Lever	57	Rewind Pulley Spindle
25	Baseplate	58	Supply Reel Stand
26	Function Cam Operating Lever	59	Rewind Drive Belt
27	Function Control Shaft	60	Screw
28	Spacer	61	Washer
29	Function Control Shaft Cam	62	Shock Mount
30	Operating Cam	63	Motor Service Pulley
31	Idler Wheel Tension Spring	64	Motor
32	Rewind Lever	65	Fan
33	"C" Washer		

BOTTOM VIEW OF MECHANISM



* Drive Belt, WALSCO Part No. 1410-10

PARTS LIST AND DESCRIPTIONS

TUBES

GENERAL ELECTRIC			RAYTHEON			SYLVANIA		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	Preamplifier	6AU6	V3	Bias Osc. -Output	6AR5			
V2	AF Amplifier	6AU6	V4	Rectifier	5MK9			

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		LAFAYETTE PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	
L1	Bias Osc.					
L2	RF Choke					

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT.	LAFAYETTE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	
C1A	20	350						TVL-3639.6*	
B	10	350							
C	3	350							
C2	3	300		PRS1600	BR435	TC697	TD-4-450	TVA-1601	
C3	3	300		PRS1600	BR435	TC697	TD-4-450	TVA-1601	
C4	10	50		PRS1320	BBR10-50	TC32	TD-10-50	TVA-1304	

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REMARKS	REPLACEMENT DATA					
				AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.
C5	.05	400V		P488N-05	DD-503	CUB4S5	4DP-3-503	GEM-415	4TM-S50
C6	.05	400V		P488N-05	DD-503	CUB4S5	4DP-3-503	GEM-415	4TM-S50
C7	.01	400V		P488N-01	D6-103	CUB4S1	4DP-1-103	GEM-411	4TM-S10
C8	.03	400V		P488N-03	DD-303	CUB6S3	4DP-2-303	GEM-413	4TM-S30
C9	.05	400V		P488N-05	DD-503	CUB4S5	4DP-3-503	GEM-415	4TM-S50
C10	.01	400V		P488N-01	D6-103	CUB4S1	4DP-1-103	GEM-411	4TM-S10
C11									
C12	.03	400V		P488N-03	DD-303	CUB6S3	4DP-2-303	GEM-413	4TM-S30
C13	250			SI 250	D6-251	LIOT25	CCD-251	GP325	10TS-T25
C14	.002	400V		P488N-002	D6-202	CUB6D2	6DP-1-202	GEM-622	6TM-D20
C15	250			SI 250	D6-251	LIOT25	CCD-251	GP325	10TS-T25
C16	.002	400V		P488N-002	D6-202	CUB6D2	6DP-1-202	GEM-622	6TM-D20
C17	.005	400V		P488N-005	D6-502	CUB6S5	6DP-1-502	GEM-625	6TM-D50
C18	.01	400V		P488N-01	D6-103	CUB4S1	6DP-1-103	GEM-411	4TM-S10

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESIST-ANCE	WATTS	LAFAYETTE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
RIA B C	500K Shaft Switch	1 2		AB-60 AK-29 KR-1				Volume Power Off-On

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN TV PART No.	REMARKS			IRC PART No.	WORKMAN TV PART No.	REMARKS
R2	2meg				R12	100K			
R3	5meg				R13	50K			
R4	100K				R14	2000Ω			
R5	1meg				R15	1meg			
R6	50K				R16	420Ω 2W			
R7	100K				R17	2000Ω 2W			
R8	1meg				R18	1000Ω 3W			
R9	3000Ω				R19	25K			
R10	20K				R20	470K			
R11	50K				R21	50K			

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	LAFAYETTE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	6800Ω	3-4Ω		A-2931	A-3877	24S51	S-49X	

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	LAFAYETTE PART No.	QUAM PART No.	
SP1	5"	PM	3-4Ω		5A1	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			LAFAYETTE PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	3AG	1A 250V						

MISCELLANEOUS

ITEM No.	PART NAME	LAFAYETTE PART No.	NOTES
M2	Head		Playback - Record
M3	Head		Erase
M4	Switch		Function (Slide Type)
M5	Switch		

WIRING DATA

General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors
Power Cord Use BELDEN No. 1765-B (6 Ft. Length)
1725-K (7½ Ft. Length)
Low-Loss Shielded Lead (Interconnecting) Use BELDEN No. 8401
Phono Pick-up Arm Cable Use BELDEN No. 8430 (Two Conductor - Twisted)